

Introduction to Psychology: Lecture 9 Transcript

February 14, 2007 << [back](#)

Professor Paul Bloom: I'm delighted to introduce the first guest lecturer for this Introduction to Psychology course, Dean Peter Salovey. Peter is an old friend and colleague. Many of you--I think everybody here knows of him through his role as Dean of Yale College. I'll just, in this context of this introduction, mention two other things about him. One is prior to being dean and in fact, still as a dean, he's an active scientist and in particular, a social psychologist actively involved in studying health psychology, the proper use of psychological methods to frame health messages, and also is the founder and developer of the idea of emotional intelligence, an idea he's done a huge amount of research on. Secondly, Peter is or was an active and extremely well-known teacher at Yale College. He taught at one point, the largest course ever in Yale College -- a course on Psychology in Law which broke every record ever had here. And before that, during that, and after that, he was a legendary Introduction to Psychology teacher. And I think--and he had some reason for why he was so legendary with his lecture today on the topic of love.

[applause]

Dean Peter Salovey: Thanks very much. Okay. Thank you very much, Professor Bloom. It really is a pleasure to come and lecture to you today on Valentine's Day on the topic of love. My main area of research is human emotion. And love is an emotion. It's not one that I study personally, at least not in the lab, and--but it is fun to talk about. And it is a topic that lends itself to many social psychological phenomena. It's

also great to be able to come in and guest lecture. One of the things I very much miss since serving as dean is the opportunity to teach Psychology 110. And although I love being dean, I do miss teaching Introductory Psychology, the feeling of exposing people to ideas that maybe you hadn't heard before.

Well, I suspect some of the ideas in this talk you'll have not heard before and for a variety of reasons. A couple of the things you'll notice is that some of the experiments I'll talk about today are not the kinds of experiments that can be done anymore. They're not considered ethically acceptable but they were done in the '50s and '60s and early '70s when ethical standards were different and so we can teach them. We just can't give you the same experiences that some of the college students that we'll talk about today in these studies had.

The other thing I will mention is that there is a certain androcentric and heterosexual quality to much of the social psychological research on romantic love. You'll see that in the experiments. Usually, the participants are men and usually the targets are women in these experiments. I'm not endorsing this as the only way to study love. It just happens to be the way these experiments were done and so I mention this caution right from the beginning. We'll have to think about--One of the things you should think about is do you think these experiments generalized to other kinds of dyadic relationships. And that's a question that I think you can ask throughout this lecture.

Okay. So let's get started. And to start things off I think what we need to do is consider a definition. I'm going to define what love is but then most of the experiments I'm going to talk about are really focused more on attraction than love--who finds each other of romantic interest that

might then develop into a love relationship. But let's start with a definition of love. And I'm going to pick a definition from a former colleague, Robert Sternberg, who is now the dean at Tufts University but was here on our faculty at Yale for nearly thirty years or so. And he has a theory of love that argues that it's made up of three components: intimacy, passion, and commitment, or what is sometimes called decision commitment. And these are relatively straightforward. He argued that you don't have love if you don't have all three of these elements.

Intimacy is the feeling of closeness, of connectedness with someone, of bonding. Operationally, you could think of intimacy as you share secrets, you share information with this person that you don't share with anybody else. Okay. That's really what intimacy is, the bond that comes from sharing information that isn't shared with other--with many other people. Second element is passion. Passion is what you think it is. Passion is the--we would say the drive that leads to romance. You can think of it as physical attraction or sex. And Sternberg argues that this is a required component of a love relationship. It is not, however, a required component of taking a shower in Calhoun College. [a Yale dormitory] [laughter]

The third element of love in Sternberg's theory is what he calls decision or commitment, the decision that one is in a love relationship, the willingness to label it as such, and a commitment to maintain that relationship at least for some period of time. Sternberg would argue it's not love if you don't call it love and if you don't have some desire to maintain the relationship. So if you have all three of these, intimacy, passion and commitment, in Sternberg's theory you have love. Now

what's interesting about the theory is what do you have if you only have one out of three or two out of three? What do you have and how is it different if you have a different two out of three? These are--What's interesting about this kind of theorizing is it give--it gives rise to many different permutations that when you break them down and start to look at them carefully can be quite interesting. So what I've done is I've taken Sternberg's three elements of love, intimacy, passion and commitment, and I've listed out the different kinds of relationships one would have if you had zero, one, two or three out of the three elements.

And I'm using names or types that Sternberg uses in his theory. These are really from him. Some of these are pretty obvious. If you don't have intimacy, if you don't have passion, if you don't have commitment, you don't have love. Sternberg calls this non-love. That's the technical term. And [laughs] essentially what he's saying is the relationship you now have to the person sitting next to you, presuming that you're sitting next to a random person that you didn't know from your college, is probably non-love. If it's something else, we could talk about it at the end of the lecture or perhaps when I get to it in a moment.

Now let's start to add elements. Let's add intimacy. This is sharing secrets, a feeling of closeness, connectedness, bonding. Let's say we have that with someone but we don't have passion, that is, no sexual arousal, and no commitment to maintain the relationship. This is liking. Sternberg calls it liking. And liking is really what is happening in most typical friendships, not your closest friendship but friendships of a casual kind. You feel close, you share certain information with that person that you don't share with other--many other people, but you're not

physically attracted and there's no particular commitment to maintaining this for a long period of time.

Now, what if you're not intimate, you're not committed, but you're passionate; you feel that sexual arousal. This is what Sternberg would call infatuation. And that term probably works for you too, infatuated love, and this is love at first sight. "I don't know you, we've never shared any secrets because I don't know you, I'm not committed to defining this as anything, I'm not committed to the future. In fact, I'm not thinking about the future. I'm thinking about right now but boy, am I attracted." Right. That's infatuation and that's what Sternberg means by infatuated love.

The third kind of one-element relationship is there's no intimacy, right, no bonding, no closeness, no secrets, no physical attraction, no sexual arousal, but by gosh, we are going to maintain this relationship, we are committed to it for all time. Sternberg calls that "empty love." Empty love is kind of interesting. It's often the final stage of long-term relationships that have gone bad. "We don't share information with each other anymore so there's no intimacy. We don't feel physically attracted to each other anymore, there's no passion, but we'd better stay together for the kids, right? Or we've got to stay together for appearance's sake or we'd better stay together because financially it would be a disaster if we don't" or all of the reasons other than intimacy and passion that people might commit to each other. That's what Sternberg calls empty love.

Now what's interesting is in societies where marriages are arranged this is often the first stage of a love relationship. These two people who have maybe never seen each other before, who have never shared secrets so there's no intimacy, who have never--don't know if they're physically

attracted to each other or on their wedding day revealed to each other and committed legally and sometimes religiously to each other. Right? The commitment is there but at that moment nothing else might be there. What's interesting of course is that such relationships don't seem to have any greater chance of ending in divorce than people who marry for love. But there's a big confound, there's a big problem in studies of those kind of relationships. What might it be? Anybody. What might be the problem in the statement I just made that these kind of relationships are just as likely to survive as people who marry for love? Yes.

Student: [inaudible]

Dean Peter Salovey: Yeah. So they may occur; they're more likely to occur in societies that frown on divorce. They make it very costly, socially costly, to divorce, so then they stay together for all kinds of reasons, not always such good ones.

All right. Now who was it who sang the song "Two Out of Three Ain't Bad"? Was that Meat Loaf? Who was it? It was Meat Loaf. All right. Professor Bloom says it was Meat Loaf. It was Meat Loaf. You're all saying, "there was a singer called Meat Loaf?" Meat Loaf sang the song "Two Out of Three Ain't Bad." Let's see if two out of three ain't bad. What if you have intimacy, "we share secrets, passion, we feel physically attracted to each other but we're not making any commitments here." Sternberg calls that "romantic love." This is physical attraction with close bonding but no commitment, Romeo and Juliet when they first met. This is often the way relationships start: "We like each other, I'm physically attracted to each other, I--to you, I enjoy spending time with you but I'm not making any long-term commitments. So I'm not even willing to use the 'L' word in describing what it is we

have." Right? Many of you might have been in relationships of this sort. That's romance. That's romantic love.

Now, what if you have intimacy, "we share secrets with each other, but there's no particular physical attraction but we are really committed to this relationship." This is what Sternberg calls "companionate love." This is your best friend. "We are committed to sharing intimacy, to being friends forever," but physical attraction is not part of the equation here. This is sort of the--maybe the Greek ideal in relationships of some kind.

All right. What if we have passion, "I'm sexually attracted to you," but no intimacy. "I don't want to really know that much about you, I don't want to really share anything of me with you, but I am committed to maintaining this physical attraction to you" [laughter] Well, that's what Sternberg calls "fatuous love." It's a whirlwind courtship. It's a Hollywood romance. It might lead to a shotgun wedding. Maybe you find yourself in Las Vegas and you get married for a day and a half and then realize that this wasn't such a good idea. And maybe your name is Britney and you're a singer. [laughter]

Well, anyway, you've got the idea. That's fatuous love. "We are basically committed to each other for sex" but it's very hard to make those relationships last a long time because we might not have anything in common, we might not share anything with each other, we might not trust each other, we are not particularly bonded to each other. On the other hand, if you have all three, intimacy, passion, commitment, this is "consummate love" according to Sternberg – complete love. This is how he defines love.

Okay. So now you have a definition of love and you can now, as a homework assignment, sit down tonight and make a list of every person you know by the three elements of love and just start putting the check marks in the boxes and tallying up your personal love box score. And we don't want to collect those. We don't even want to see those but you can have fun with that. Then you can ask the other people to do it too and you can compare with each other. [laughter] And if you all survive this exercise you'll be better for it. [laughter] What doesn't kill you makes you stronger. That's the idea behind that exercise.

All right. Now the social psychology of love really has been a social psychology of attraction. What makes people find each other attractive? What makes them want to be intimate? What makes them physically desirable to each other? What might lead to a commitment, a decision to make a commitment to make the relationship last? This is just so nice. I'm giving this lecture on love and the two of you are holding hands here in the front row. It's really-- [laughter] And-- [applause] All three elements present, intimacy, passion, and-- [laughter] Yeah. Okay. [laughter] Good. Just checking. [laughter] Okay.

So what's interesting about the social psychology of attraction is it has focused on seven variables. And I've divided these into two groups, the big three and the more interesting four. And I call them the big--The big three are three variables that the effects are so powerful that they almost don't need to be discussed in much detail. The more interesting four are the ones I'm going to focus on in this lecture because they're a bit more subtle and they may be things that you've never heard of before. But let's quickly talk about the big three.

The way to understand the big three is with the phrase "all other things being equal." All other things being equal, people who find themselves in close spatial proximity to each other, like sharing an armrest in a lecture, will be more likely to be attracted to each other and form a romantic relationship. Okay, all other things being equal. Now this has been tested in lots of interesting ways. Studies have been done in the city of New York where you can--if you live in Manhattan you can actually get a very nice metric of how far apart people live from each other in city blocks. Right? You have a nice grid pattern and you can use a city block metric to add up the number of blocks between people's doors. And people who live more closely together are more likely to end up in romantic relationships with each other. It seems kind of obvious. Right? This even works on college campuses. We can measure in feet the distance between the door to your room and the door to every other room of a student on campus and there will be a correlation between the likelihood of--it's a negative correlation--the likelihood of getting into a romantic relationship with a person and the number of feet between your door and that person's door. The fewer feet, the more likely a romantic relationship, all other things being equal.

Now, all other things being equal is a big qualifier. Right? But if we could statistically control for every other variable, all I'd need to do is measure the distance from your door to everybody else's door on campus and I could chart out who's going to fall in love with whom on the Yale campus. Now, this idea in a way is--I don't know. Maybe it's a little counterintuitive. There is a kind of cultural myth around the stranger, the person you don't know, who you will--who you fall in love with. And that is not likely to be the case if it's the person who is nearby. Right? And you'll see as we go through the other big--the other two "big three"

that there is a kind of repetition of this theme. It isn't the stranger you fall in love with.

All right. Let's continue down. Similarity. You've probably heard the phrase "Birds of a feather flock together" and that's true when it comes to romance. On any dimension that psychologists have measured in these kinds of studies, when people are more similar they are more likely to find each other attractive. This could be obvious things like height or age but it also could be things like attitudes toward capital punishment, preference for the Red Sox over the Yankees. Right? All of these are dimensions of similarity. All things being equal, the more similar the more likely you'll find each other attractive. So, opposites don't really attract. Birds of a feather may flock together but opposites don't really attract each other.

Now, usually at this point somebody in the lecture hall raises their hand and says, "Well, my boyfriend or my girlfriend and I are complete opposites and how do you account for that, Professor Salovey?" And I usually look at them and I say, "Good luck." [laughter]

And of course all things might not be equal. There may be other variables at play but, all things being equal, similarity does not breed contempt. Similarity breeds attraction. Okay? Isn't it interesting? We have all of these common sayings that contradict each other and then empirically, some of them turn out to have more evidence supporting them than others. So "opposites attract?" Not much evidence. "Similarity breeds contempt?" Not much evidence. "Birds of a feather flock together?" Yeah, there's some evidence for that anyway.

Finally, familiarity. Familiarity--We tend to fall in love with people in our environment with whom we are already familiar. The idea that some enchanted evening we will see a stranger--Where are The New Blue [a Yale a cappella group that sings for couples on Valentine's Day] when you need them? [laughter] "Some enchanted evening you will see a stranger across a crowded room." Right? What musical is that from? "South Pacific." Very good. You will see a stranger across a crowded room. That's kind of a cultural myth. Of course it happens, but much more common is somebody you already know, somebody you have seen repetitively you suddenly find attraction--attractive and a relationship forms. Okay?

So the big three: People who are similar to you, people who are already familiar to you, people who are nearby in space. These are the people, all things being equal, that you will find attractive. Okay? So those are the big three. Those are big main effects. Those are big, easy to observe in various ways in the lab. By the way, the familiarity idea doesn't just work for people. I can show you words in a language that you don't speak and I can flash those words to you very quickly and I can later repeat some of those words and mix in some new ones that you've never seen before and I can say, "I don't know--I know you don't know what any of these words mean. I know you can't read these characters but just, if you had to tell me, which ones do you like and which ones don't you like or how much do you like each one?" The ones you will like are the ones you saw earlier, the ones that you already have familiarity. Even if you don't remember having seen them, even if that familiarity was generated with such quick exposures that you don't remember even having seen anything, you will get that familiarity effect. Okay? Good.

The more interesting four. These are more interesting because they're a little bit complicated, a little bit subtle. Let's start with actually the one that is my favorite. This is "competence." Think about other people in your environment. Think about people who are competent. Generally-- And think about people who are incompetent. Generally, we are more attracted to people who seem competent to us. Now, that isn't very interesting. And it turns out that's not really the effect. Yes, we're more attracted to people who are competent than people who we think are incompetent but people who are super competent, people who seem competent on all dimensions, they're kind of threatening to us. They don't make us feel so good about ourselves. Right? They make us feel a bit diminished by comparison. So, what we really like--The kind of person we're really attracted to is the competent individual who occasionally blunders. And this is called the Pratfall Effect, that our liking for the competent person grows when they make a mistake, when they do something embarrassing, when they have a failure experience. Okay?

You can see this with public figures. Public figures who are viewed as competent but who pratfall, who make a mistake, sometimes they are even more popular after the mistake. Okay? I think of Bill Clinton when he was President. His popularity at the end of his term, despite what everyone would agree, whether you like Bill Clinton or not, was a big mistake with Monica Lewinsky, his popularity didn't suffer very much. A lot of people in the media would describe him, "Well, he's just--It just shows he's human." He makes mistakes like the rest of us, even though that was a pretty big mistake. Right? And you could see this even with smaller pratfalls. Sometimes public figures are liked even more after their pratfall.

Now, the classic experiment, the classic pratfall experiment, is just a beautiful one to describe. It's a work of art. So, let me tell you a little bit about it. You're in this experiment. You're brought to the lab and you're listening to a tape recording of interviews with people who are described as possible representatives from your college to appear on a quiz show. The quiz show is called "College Bowl," which I don't think is on anymore but was on when I was in college. And you're listening to interviews with possible contestants from Yale who are going to be on "College Bowl." You have to decide how much--What you're told is you have to decide who should be chosen to be on "College Bowl." And you listen to these interviews. Now what's interesting is there's two types of people, the nearly perfect person and the mediocre person. The nearly perfect person answered 92% of the questions correctly, admitted modestly to being a member of the campus honor society, was the editor of the yearbook, and ran varsity track. That's the nearly perfect person. The mediocre person answers only 30% of the questions correctly, admits that he has only average grades, he worked on the yearbook as a proofreader, and he tried out for the track team but didn't make it. So, you see, they're keeping a lot of the elements consistent but in one case he's kind of an average performer and in the other case nearly perfect.

Now, which of these two people do you find more attractive in listening to the tape? So, when they ask you questions about which person should be on the quiz show, people say the more competent person. But they also ask questions like, "How attractive do you find this person?" Now, you're only listening to an audiotape. How attractive do you find this person? And the results are pretty obvious. The competent person is rated as much more attractive, considerably more attractive, than the

mediocre person. Okay? If this were the end of the story though, it would be a kind of boring story and it's not the end of the story.

Now, what happens is half of the participants in the experiment who have listened to each of these tapes--You only get to listen to one tape. Half of them are assigned to the blunder condition. And what happens in the blunder condition is the tape continues and what you hear is the clattering of dishes, a person saying--the person saying, "Oh, my goodness. I've spilled coffee all over my new suit." Okay? That's the blunder. That's the pratfall. Now you're asked, "Who do you find more attractive?" And look what happens. Your rating of the attractiveness of the competent person grows even higher. The competent person who blunders, this is the person that I love. Unfortunately, the mediocre person who blunders, you now think is even more mediocre. [laughter] Right? This is the sad irony in these experiments. The effect works both ways so the mediocre become even more lowered in your esteem, in your regard.

Now, I'll tell you a little personal story about my coming to Yale that relates to this experiment. This is one of the most famous experiments in the history of social psychology. I wouldn't quite put it up there. You'll hear maybe later about, or maybe you've already about Milgram and maybe Asch conformity and maybe Robber's Cave. Those are even better known than this, but this is right up there. This is a top five experiment. What--So--And it was done by Elliot Aronson who has retired now, but for many years taught at the University of California at Santa Cruz. The name is not one that you need to know.

In any case, I came to Yale in 1981 as a graduate student and I was looking for an adviser and I was kind of interviewing with a faculty

member at Yale at the time named Judy Rodin. Some of you may know that name because she went on later to become the President of the University of Pennsylvania and now is the President of the Rockefeller Foundation. But I was interviewing with her and set up a meeting. And what I was trying to persuade her in this meeting was to take me on as one of her students, to let--to be my adviser. And it's about my third or fourth week of graduate school and I'm pretty nervous about this. And she could be intimidating to a first-year graduate student.

And I remember I was holding this mug of coffee and I was pleading with her, trying to convince her to take me on as her student, and I was saying, "Judy, I'll get a lot done. I'll work really hard. I can analyze data. I can write." And I'm talking about myself and I'm swinging--I'm using my hands as I talk. I'm swinging this cup of coffee around. And fairly soon into the conversation I demonstrated some principle that you've probably learned in your physics class having to do with an object at rest remaining at rest unless acted upon by a force. Well, the object at rest was the coffee in the cup and when I pulled the coffee cup out from under the coffee it landed right on her desk and began--I watched in slow motion as this wave of coffee just moved from my side of the desk to her side of the desk.

She jumped up and jumped back and started moving papers around and really was giving me this look like "Why don't you just leave?" So, I was trying to save the moment as best as I could, and I looked at her and I said, "Judy, do you remember that old experiment that Elliot Aronson did [laughter] on attractiveness?" [laughter] She looked at me kind of out of the corner of her eye and I said, "Well, that was my blunder. [laughter] Now you're going to like me even more." [laughter] And she

just shook her head and she said, "Peter, Peter, Peter. You know that effect only works if I think you're competent first." [laughter] Anyway, that was my introduction to Yale, graduate school at Yale. [laughter]

All right. So blundering. Only blunder if you're competent first and it will make you more attractive. That is the Pratfall Effect. Let's move on and I'm going to move a little bit quickly through all this because I want to leave time for a few questions at the end of the lecture.

Let's talk about physical attractiveness as number two of the more interesting four. Now physical attractiveness is one that really bothers us. We don't like to believe that physical attractiveness accounts for much in life. It seems unfair. Except at the margins, there isn't much we can do about physical attractiveness. And when we're not pictured in *The Rumpus* [a satirical Yale newspaper that publishes a list of the best looking people on campus] it can really hurt. [laughter] So, we all like to believe that physical attractiveness matters. And the interesting thing is if you do surveys of college students and you say to them, "Rate how important different characteristics are in relationships that you might be involved in," they will say that warmth is important, sensitivity is important, intelligence is important, compassion is important, a sense of humor is important, and they'll say that looks aren't important. But if you measure all of those things--Let's do it in a different order. If you send everybody out on a blind date and then you look at, after the blind date, how many of those people who are matched up blindly actually go on a second date, actually get together again, what predicts who gets together again? Was it the rating of warmth? No. Sensitivity? No. Intelligence? No. Compassion? No. Sense of humor? No. What was it? Looks. So we believe that looks don't matter and unfortunately they do.

Now, the good news in all of this is the studies that looked at physical attractiveness in this way were just looking at what predicts a second date after a first date. Obviously, what predicts a long-term relationship are probably things less superficial than looks, or at least other things in addition to looks. But it is a great predictor of a second date. And college students year after year say, "But it's not important." And it's one of those classic disassociations between what we think is unimportant and what empirically turns out to be more important.

Alright well, there are very interesting studies that have been done with physical attractiveness. At the University of Minnesota, a computer algorithm paired people up. It couldn't have been a very complicated algorithm because it basically paired people up randomly on the campus. But the computer--but a lot of data about all the students on campus were--was collected--were collected and people were then randomly paired up and sent to the dance. And then they were tracked over time. And just as in the thought experiment I just gave you, the University of Minnesota students acted in the same way. If the computer--If they rated their partner as attractive, the randomly assigned partner, they were more likely to continue the relationship.

Now it's interesting to ask, "why?" And we have to start to look at other experiments to try to get at what is it about physical attractiveness that makes people want to pursue the relationship? And once again Elliot Aronson, the person who did the blunder experiment, the "Pratfall" experiment, he did some nice work on attractiveness as well. And in one experiment, which many people know as the "Frizzy Wig" experiment, he did the following. He invited a confederate, a graduate student who was working with him in his lab--Psychologists--Social psychologists

always call people who are in the employ of the experimenter "confederates." It doesn't mean that they grew up south of the Mason-Dixon Line or wave a certain kind of flag or--but the older term for it was "stooge." They would say, "We hired a stooge to act in the following role in the experiment." But I think a certain generation of college students thought stooges were only named Moe, Larry, and Curly and so they started to use the phrase "confederate." Now, they'll usually just say, "We hired an actor."

But anyway, the confederate that they hired was a woman who was naturally attractive in most people's view but they made her look either more attractive or less attractive by giving her kind of frumpy clothes, bad make-up, and a frizzy wig. And it was the frizzy wig that everybody remembers from this experiment. And what she does in the experiment is she poses as a graduate student in clinical psychology who is interviewing male participants – only men in this experiment. And at the end of the interview she gives them her own personal clinical evaluation of their personality. Okay? So, that's all it is. They have this interview with this woman. She's either made to look very good or she's made to look kind of ugly with this frizzy wig and they talk to her. She gives them an evaluation of their personality. Half of the subjects receive a favorable personality assessment. Half of them receive a kind of unfavorable evaluation.

How do they respond? Well, when she was made to look attractive they were delighted when she gave them positive feedback about themselves. When she was made to--When she gave--When she was made to look attractive but gave them unfavorable information about themselves, they were really upset about it. When she was made to look unattractive they

didn't really care what kind of information she gave. It didn't really matter whether it was positive or not. It didn't really make any difference. It was interesting. In the condition where she was made to look attractive but gave you bad feedback about yourself, often the subjects in that condition would look for an opportunity to interact with her in the future, obviously to try to prove that her evaluation was wrong. It mattered that much to them.

So there's kind of this idea that attractive people, their feedback to us has more impact. I'm not saying this is fair, I'm not saying it's rational, I'm not endorsing it, but empirically-- [coughs] excuse me--empirically we can see it, that somehow the attractive--the feedback from the attractive person matters more to us.

Okay. Number three of the more interesting four. Gain, loss. This is really a general idea in psychology that we are in a way wired up to be more sensitive to change than to steady states. And you could imagine why that might be true. Change often signals danger or opportunity and if we are especially tuned-in to change, it helps us survive and it helps us pass along our genes. Okay? So we're more sensitive to change.

How does that play out in love? Well, in love we are--what is very powerful to us is not just that someone always is positive toward us, "I love you, I love you, I love you, I love you, I love --" Right? It wears out its welcome. What's more powerful is the person who was not that positive to us but over time becomes more positive. The first derivative of their regard for us is positive. Okay? Aronson calls this the "Gain Effect." We are really attracted to people whose regard for us is gaining momentum over time. Okay? And even if over a period of time the average amount of their regard is lower because they started lower and

then got higher than someone who was always high, it's the ones who were first lower who then went up that capture our attention. The first derivative is more important than just the position of their regard for us, getting better and better.

Now, what's interesting is there is also a loss effect. People who really hurt us are not the people who have always been negative. The person who every time they sees you hates you, says they hate you and accompanies it with an obscene gesture--after a while this person can't hurt you. Right? There's a country song that Ricky Skaggs sings that has the phrase in it "Nothing can hurt you like the person you love." That's what hurts, the person who always was positive who now--whose regard starts to fade. Oh. You can only hurt the one you love. Right? You can only hurt the one you love because you are expecting positive feedback from the one you love. And when that turns negative, it's a blow. It's a blow to the solar plexus. Right? So you can only hurt the one you can love but the one who always loves you sometimes has trouble showing you that they love you. The one who didn't really love you that much but then starts to show you that they love you, that person is a powerful influence on your behavior.

Okay. The last--Oops. Come back. The last set of studies--Have you talked about Schacter, Singer's "Emotions"? Okay. So let me describe to you this phenomenon. This is a phenomenon about the misattribution for the causes of arousal. You feel physiologically aroused but you're not completely sure why, and you have to make up an explanation for it. I think what I want to do--And sometimes that explanation is accurate, but the ones that are interesting here are the ones where you misattribute the

cause of the arousal--you make a mistake and think it's love when it might be due to something else.

So, let's do a thought experiment. I'm a Yale college student, for the purposes of this thought experiment and I live in Pierson because I need to walk a great distance to Chapel Street, to the Starbuck's on Chapel Street. And I have a friend who I don't know that well, somebody who was sitting next to me in class a few weeks in a row. And I said, "Would you like to go see The New Blue in concert and then get coffee after it Friday night?" And she says to me, "Sure. I would do that." And so The New Blue concert takes place in the Pierson-Davenport Theater in the basement there – what used to be a squash court is now a little theater – and we enjoy ourselves at the concert and then I say, "Let's go to Starbuck's and get a coffee."

And so, we walk that distance from Pierson College down to the York Street Gate, over to Chapel Street, make the left on Chapel Street, another block down to High, walk into the Starbuck's. And she says to me, "You know, I'd better have a decaf because it's kind of late and I want to be able to sleep." And I say, "That's fine. Whatever you want." She says, "Yeah. So I'll have a decaf double espresso mocha skinny with a--" What? What other dimensions are there? [laughter] Right? "A double espresso mocha skinny frothed." [laughter] And I say, "Okay. Fine. I'll have a coffee." [laughter] And I go up there and I order the drinks. "I'll have a small coffee please and a double espresso mocha skinny frothed" except the barista makes a mistake. Did the word "barista" exist before Starbuck's? [laughter] I don't think so.

The barista makes a mistake. The barista uses caffeinated coffee in the drink instead of decaf, doesn't tell anybody, doesn't tell me. I don't see it.

I just come back with my black coffee and my double espresso mocha latte skinny frothed, except it isn't espresso. It's got two shots of caffeinated espresso. I'm sorry. It isn't decaffeinated. It's got two shots of caffeinated espresso in it. And I put it down on the table and we're having this nice conversation and we're drinking our beverages and it's about 12:30/1:00 now and Starbuck's is closing and it's time to walk back to Pierson. And we're walking back to Pierson and we leave the Starbuck's, we make a left on Chapel Street, we're walking up to York, I'm getting a little sleepy, but my friend looks at me and says, "Huh. I feel a little funny." What's actually happening? Her heart is beating a little faster, [sound of heartbeat] her palms are beginning to sweat, her breath is coming a little shorter than it otherwise would. "I don't know. Is it warm in here?" And she said, "I don't think I've felt this way in a very long time. [laughter] "Gee. It couldn't be the coffee. I ordered decaf. What could this be? What.." And she turns and she looks at me [laughter] and she says, "What a day this has been. What a rare mood I'm in. Why, it's almost like being in love." [laughter]

And it is almost like being in love except what it really is is two shots of caffeinated espresso [laughter] causing a rapid heart rate, an increase in respiration, sweaty palms, but I don't realize--she doesn't realize that's what it is. She turns to the most salient--and this is the way social psychologists would say it--turns to the most salient object in her immediate social environment--that would be me--and [laughter] says she's in love.

That's the idea of misattribution--aroused due to something else, "don't know what that is." It's best if you don't know what that is or even if you

do mistakenly attribute it, misattribute it, to physical attraction, romance, intimacy, passion and commitment, it's love.

All right. Now, I don't necessarily recommend that you do this thought experiment in vivo this weekend, although if you're lonely you might want to try it but [laughter] we can go--we can take this idea right--We can actually do research on this. We could take it into the lab. But before I tell you about lab experiments let me tell you about the most famous field experiment on this idea.

We call this the "Rickety Bridge" experiment. And there is a bridge at the University of British Columbia that crosses a river that runs through campus and the rickety--There's actually two bridges. The rickety bridge is one that's kind of a rope bridge. It's hundreds of feet above the river. It sways in the breeze. It's only about three feet wide. You kind of hold on to it carefully and you cross the river. It's a pretty scary way to cross that river. Has anybody been--seen this bridge? It's still there. Yes. You know this bridge. Okay. There's another way to cross the river. It's on a low bridge near the water, solid wood planks, nice and wide, hand railings made out of solid wood, and you can cross the bridge that way.

So, what two investigators at the University of British Columbia did is they simply positioned, once again, an attractive actor or confederate on one side of the bridge. She was a woman and she met men crossing the bridge. And she would intercept them as they came across the rickety bridge, or the low bridge, and she would ask them a few questions and conclude with, "Can you write me a story? You would help me out with my experiment if you'd just write a little story right now." Then she would collect their story and she would say, "If you have any questions about this experiment, here is my phone number." Actually, this happens

when you're in experiments. You get the phone number of the experimenter.

What happens? Well, the men, male students, who cross the rickety bridge, they wrote these sexy stories with interesting content, with kind of little bit ribald themes. And the people on the solid bridge, they just wrote pretty boring stories. The people who crossed the rickety bridge were more likely to call her up later and say, "Yeah. I'd like to talk about that experiment I was in. Could we meet at the Starbuck's? [laughter] You drink decaf, don't you?" Right? And the people on the low bridge were much less likely to call her up. Okay?

What was going on? Well, this was interpreted as misattributed arousal. On the rickety bridge you're swaying in the breeze hundreds of feet above the water, the bridge seems unstable. Maybe you'll make it. Maybe you won't. Your heart is beating, your palms are sweating, you're breathing harder. You meet this person and she seems more attractive because you're feeling all these things. And you attribute it to the attraction.

Now, there's a reason why this study is bad science. There's a major flaw in this study. The clue to the flaw is that you can't even call this study an experiment. What's the flaw? Anybody. Yes.

Student: The people who would take the rickety bridge might be more likely to be more [inaudible]

Dean Peter Salovey: People who take the rickety bridge might be the kind of people who are more looking for adventure than the people who take the solid bridge. Right. Another way of saying it is there isn't random assignment of the subjects to the two conditions in the study.

That's no random assignment; it's not an experiment. You--By not randomly assigning people to these two conditions, you may be capturing just individual differences in the kind of person who, when there's a perfectly stable, safe, low bridge, says, "Huh uh. I won't want to go on that bridge. I want to go on the bridge where I have to risk my life to get to class." [laughter] And then should it surprise us that that's the kind of person who would call a perfect stranger on the telephone and write a sexy story and give it to them? [laughter] Right? We're not so surprised. So what we have to do, of course, is take it in to the lab and do this in a more systematic way with random assignment. And this is how I'll want to finish up today. We have until 2:45, 3:45? Okay. Great. I'll take about five more minutes to finish up and that'll give us some time for questions.

So how do you do this in the lab? Well, you can bring people in to the lab and I can present you with a confederate who--Let's say you are all in condition one, everybody on this side of the room, and I can say to all of you, "Please wait here. We'll begin the experiment in a moment. While you're waiting please fill out this form." And the form includes how attractive--how attracted you are to the experimenter, to me. I can do the same thing over here. I can give you the form and ask you to rate how attractive you think I am and I can give you the same instruction with a crucial difference: "Please wait here. We will begin the painful shock experiment in a moment. Please fill out these forms while you wait."

What happens? The people who got the painful shock instruction are more likely to find the confederate attractive. [laughter] Why? While they're sitting there thinking about painful shock it's making their heart

beat faster, [sound of heartbeat] it's making their palms sweat, it's making them breathe harder maybe. And even though it's fairly obvious what's doing that, they still misattribute that arousal to "I must be falling in love," even with that obvious a--even with that obvious an instruction.

You can do this in other ways. You can bring--Here is one of my favorite ones. You bring people in the lab. We'll make them the control group this time. We bring you in the--to the lab and we say to this group of people, "Please wait here. We'll begin the experiment in a moment. You can fill out these forms in the meantime." The forms ask how attracted you are to the experimenter. You're now in the experimental group and I say, "Please wait here. We'll begin the experiment in a moment. I'm going to ask you to fill out some forms but first, to get ready for this experiment, I'd like you to get on this treadmill and run for ten minutes." So you've run on the treadmill. You've just sat around. The people who've run on the treadmill, even when that arousal is fairly obvious, you've got--you--doing a little bit of aerobic exercise, you still find the experimenter more attractive. Okay? This is why the fourth floor of Payne Whitney Gym is such a dangerous place [laughter] and I urge you as your dean to be very careful there. [laughter] Okay? It's that combination of aerobic exercise and spandex [laughter] that leads to trouble.

All right. Now, here's the final experiment and I apologize for this. It is a bit sexist in 2007 context, but let me explain. And we could never do this--and one could never do this experiment today but let me go through it with you and you'll apologize for its--some of its qualities. In this experiment male subjects were brought in to the lab and they were asked to look at centerfolds from *Playboy* magazine. So, these are essentially

photographs of naked women. And they are wearing headphones that amplify their heartbeat and they are asked among other things how attracted are they to the centerfold photograph that they're looking at. So, maybe--I don't remember how many they look at. Maybe it's about 10.

So, these slides are coming up. They've got the headphones on. The headphones are amplifying their heartbeat and the slides are moving one after another for a few seconds each slide and they're listening to their heartbeat. [sound of heartbeat] Slide one. Slide two. Slide three. Slide four. Slide five. Slide six. And then they're asked which one did you find most attractive, which one are you most attracted to? "Oh, slide five, absolutely. She's the woman I want to marry." [laughter] Right? And what has happened is they're using this bodily cue of their heartbeat to infer that that's who they find more attractive.

Now, here is the twist. They're not actually listening to their heartbeat. They're listening to a tape recording of a heartbeat. And the experimenter is back there with the speed knob [laughter] and at random intervals he just speeds up the tape of their heart [laughter] and then slows it down. And it doesn't matter which slide he speeds up the tape of the heartbeat on, that's the one the subject is more likely to think is the person of their dreams, the person they're attracted to. So even you can misattribute real arousal. You can even misattribute phony arousal, arousal that isn't even coming from your body. It's just coming--It's just being played to you randomly. You can even misattribute that.

Okay. I think these experiments are cute and I think there's an interesting phenomenon there. And it says something, in a way, about how easily we can be misled as to what things in our environment, even things

coming from our own body, mean. But there's also some very serious implications of this kind of work. One of them has to do with domestic violence. So think about domestic violence situations and why people stay in them. Why do people stay in relationships that are violent? Now the number one reason, and we have to acknowledge it up front, is usually economically there's no alternative or people believe there's no alternative. "I can't leave because if I leave I'd be homeless. If I leave I will starve, if my--if I leave my kids will starve or there'll be danger to my kids." And that keeps people trapped in abusive relationships but-- And that's number one, but what else might be going on?

Sometimes people don't realize that the relationship they're in is abusive--it's psychologically or emotionally abusive. They get into these fights and screaming matches and name-calling and such even if it's not physical violence. And they feel a certain arousal when that happens and they misattribute it. "Well, he wouldn't be yelling and screaming at me if he didn't love me." Right? They misattribute that, what might be anger, what might even be aggression and violence, to an expression of love.

I have a friend who's a social psychologist who told me a story once that really made me very nervous, although she's fine. She said, "When I was dating my husband"--this is thirty years ago--"we were having a tough time. We were in many, many arguments--We got into many, many arguments and one time something happened where he came up to my car in a parking lot and he was yelling at me through the window. And I rolled up the window and before you know it he had punched out the window." And yelling at her and punched out the window. He didn't touch her. And he--she said to me, "That's when I knew he really loved me." And I thought that's scary and I--and, all joking aside, that's scary

but that's misattributed arousal. "I'm feeling--when he did that I felt something and I assumed it was love. What she was misattributing as love--Well, she was misattributing his aggressive response as love. She was misattributing her own fear as mutual attraction, as "And I must love him." So, although we joke about these kinds of experiments, and they are fun to talk about because they are unusual and cute, there is also some serious implications of this kind of work that one might think about. And you might think about other possible implications as well. Okay. Let me stop there and see what kinds of questions we might have.

[applause]

Dean Peter Salovey: Thank you. Thanks very much. That's very kind of you. Because we are on tape I'll repeat any questions that come in. Yeah.

Student: [inaudible]

Dean Peter Salovey: Right. So the question is in experiments like the painful shock experiment if you are told in advance, like you all are, through a consent form or by the experimenter, "This is an experiment involving painful shock," will you still rate the experimenter as more attractive or will you not be able to misattribute the arousal? It is true. The more salient we make the source of the arousal, the less likely you can get the effect. If in my thought experiment I say to my friend, "Well, I know why you're feeling that way. The reason why you're feeling that way is 'cause the barista made a mistake and gave you caffeinated espresso when you asked for decaf or maybe you just love me." Right. The person is not likely to say, "Oh, I bet it's love." They're more likely to think oh, caffeine, yeah. That's the parsimonious explanation here." So it is true. The more salient you make the cause of the arousal, the less

likely you'll get the effect but you can see even in experiments where the cause of the arousal is somewhat obvious, at least to us, you can still get a misattribution effect. Other questions. Yes.

Student: [inaudible]

Dean Peter Salovey: Yeah. So the question is are any of these factors, particularly the big three, proximity, familiarity, and similarity--Do they affect the maintenance of relationships or just the initial attraction? It's interesting. My guess is they affect both initial and maintenance over time but the literature mostly focuses on initial attraction, much richer data on that initial attraction and those initial stages of the relationship in part because it's a little hard to follow couples over time. Imagine the sort of Heisenberg-esque problems we would get carefully following romantic couples over time and interfering with them to ask questions and make observations. It would be hard to let this couple naturally--this relationship naturally unfold. So, we really get--So, really the focus of many of these experiments is on initial attraction. That's why I always say my lecture is on love, the definition of terms is about love, but the experiments really are much more about attraction than about love. Another question. Yes.

Student: Can someone feel consummate love for more than one person?

Dean Peter Salovey: Oh. Can someone feel consummate love for more than one person? That's a very good question. It's actually a question that's debated in the literature. I didn't get into it at all in this experiment--in this lecture--but there's an interesting debate going on about love and many other emotions between people who take a kind of evolutionary perspective on these states versus people who take what might be called

a more socially constructed perspective. And these aren't necessarily so incompatible but the evolutionary perspective I think would argue that you can feel that kind of love for more than one person or at least it would facilitate the passing on of your genetic material to a larger array of the next generation. So I think the evolutionary explanation is not a problem but we have constructed a world where in most societies, except for very unusual polygamist societies, the belief is that you can't love more than one. Right. And so you've got this tension between what might be evolutionarily wired impulses and the kind of social constraints that say this isn't good, this isn't appropriate, this is taboo. And my guess is the result is yes, you could but you're not going to feel un-conflicted about it and it's because these two are conflicting each other at the same time. How about one more question and then we'll let you go? I'm sorry. I saw him first.

Student: Wouldn't natural selection favor the people who learn all these things and then practically try to apply them?

Dean Peter Salovey: So he's making the evolutionary argument. Wouldn't natural selection favor the people who take introductory psychology, come to my Valentine's Day lecture, listen carefully to the big three and the more interesting four, and then go out there and put them into practice? It feels a little bit like the--like we're trying to pass on an acquired characteristic, which is a little bit counter to Darwinian theory but if somehow you could design a proclivity for learning this kind of material, evolution might indeed favor it. I can tell you this much. It would make the several thousands social psychologists in this world very happy and proud of their field, if that turned out to be true. Anyway, thank you all very much. Happy Valentine's Day! Thanks!

[end of transcript]